



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/058,723	01/28/2002	Michele Merrette Shore	1924	7901

7590

07/17/2002

Laurelee A. Duncan  
NATIONAL STARCH AND CHEMICAL COMPANY  
P.O. Box 6500  
Bridgewater, NJ 08807-0500

EXAMINER
----------

FORTUNA, JOSE A

ART UNIT	PAPER NUMBER
----------	--------------

1731

5

DATE MAILED: 07/17/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.  
10/058,723

Applicant(s)  
Shore et al.

Examiner  
José A. Fortuna

Art Unit  
1731



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on Apr 22, 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

Art Unit: 1731

## DETAILED ACTION

### *Claim Rejections - 35 U.S.C. § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1-22 are rejected under 35 U.S.C. 102(e) as being anticipated by Jaschinski, US Patent No. 6,409,881.

Jaschinski teaches modified fibers, oxidated at the C-6 of glucose units to form, in that unit, aldehyde and or carboxy groups, see abstract. Jaschinski teaches the use of TEMPO and derivatives to modify the fibers and teaches that the fibers can be fluffed to make absorbent structures, see column 3, lines 22-27 and column 24, line 57 through column 25, line 5.

Jaschinski teaches also the same range of aldehyde in the modified fibers, see column 8, line 65 through column 9, line 3. Jaschinski teaches the use of the same oxidating agents and the same catalyst for the reaction see column 11, line 39 through column 16, line 27.

Art Unit: 1731

*Claim Rejections - 35 U.S.C. § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Column.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103© and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1, 13-15, 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al., US Patent No. 5,698,688.

Art Unit: 1731

Smith et al. teach a paper made with aldehyde modified fibers, see abstract. Smith et al. teach also that the aldehyde groups increase the temporary strength of the fibers, see abstract and teach the fluffing of the fibers, see column 9, line 62 through column 10, line 7, (see the use of the fibers for sanitary napkins, tampons, diapers, etc.). Even though Smith et al. are silent with respect to the number of moles of aldehydes in the fibers, Smith et al. teach that the presence of aldehyde groups is evidenced by an increase of wet strength of the paper formed from the modified fibers and that the degree of oxidation can be readily optimized for a given fiber weight to obtain desired degree of aldehyde groups in the fibers and that it would be desirable to avoid over oxidation so to control the formation of carboxylic acids groups in the fibers, see column 7, lines 8-20. Therefore, it is clear that optimizing the degree of aldehyde to the claimed degree would have been obvious to one of ordinary skill in the art, in order to optimize the strength of the fibers.

6. Claims 2-12, 16-17 and 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al. in view of Nooy et al. in "Selective Oxidation of Primary Alcohols by Nitroxyl."

Smith et al. invention has been previously discussed, see above. Smith et al. fail to teach the use of nitroxyl radicals as claimed in claims 16-22 and 24-25. However, Nooy et al. teach that primary and secondary alcohols, such as the one in cellulose can be oxidized to aldehyde and/or carboxylate depending on the reactions conditions and the substrate, see page 8023 and teach in page 8027 that using inorganic solvents without water or with low concentration of water the reaction stops at the aldehyde stage. Therefore, the use of nitroxyl Radical containing compounds,

Art Unit: 1731

such as TEMPO, to form aldehyde modified fibers such as the ones disclosed by Smith et al. would have been obvious to one of ordinary skill in the art, since one of ordinary skill in the art would have reasonable expectation of success if Nitroxyl Radical containing compounds are used. One of ordinary skill in the art would find that increasing the aldehyde content of fibers using Nitroxyl Radical is another viable alternative, in view of Nooy et al. teachings.

7. Claims 1-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cimecioglu et al., US Patent No. 6,228,126 in view of Smith et al. or Jaschinski.

Cimecioglu et al. teach aldehyde modified fibers for papermaking use with all the limitations of the claimed fibers. Cimecioglu et al. do not implicitly teach the fluffing of such fibers nor the use of the fibers as such, fluffed, for absorbent products. However, Both Smith et al. and Jaschinski, as discussed above teach that aldehyde modified fibers can be used as fluff, i.e., the fibers can be fluffed and used in absorbent structures such as diapers, pantliners etc, (fibers used in those applications are fluffed for additional wicking, bulk and fluid retention). Therefore, fluffing Cimecioglu et al. fibers for making the incontinent articles as taught by Smith et al. would have been obvious to one of ordinary skill in the art, since he/she would have reasonable expectation of success if the fibers are fluffed as taught by Smith et al. Note that Cimecioglu et al. teach the same degree of aldehyde in the fibers and the same type of additives, i.e., TEMPO and TEMPO derivatives.

Art Unit: 1731

***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure in the art of "Aldehyde Modified Fibers."


9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to José Fortuna, whose telephone number is (703)305-7498. The examiner can normally be reached on Monday-Friday from 9:30 A.M. to 5:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley S. Silverman, can be reached on (703)308-3837. The fax number for this group is (703)305-7115.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703)308-0661.

When filing a FAX in group 1730, please indicate in the Header (upper right) "Official" for papers that are to be entered into the file, and "Unofficial" for draft documents and other communication with the PTO that are not for entry into the file of the application. This will expedite processing of your papers.

José A. Fortuna  
July 1, 2002

  
JOSÉ FORTUNA  
PRIMARY EXAMINER  
ART UNIT 1731